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"CRESSY."

AUTHOR OF "THE LUCK OF ROARING CAMP," "TALES OF THE ABGONAUTS," "IN THE CARQUINEY WOODS," "MARNJA," ETC.

BY BRET HARTE,

CHAPTER V.

While this simple pastoral life was centered around the school-house in the clearing, broken only by an occasional warning pistol-shot in the direction of the Harrison-McKinstry boundaries, the more business part of Indian Spring was overtaken by one of those spasms of enterprise peculiar to all California mining settlements. The opening of the Eureka Ditch and the extension of stage-coach communication from Big Biuff were events of no small importance, and were celebrated on the same day. The double occasion overtaxing even the fluent rhetoric of the editor of the Star, left him struggling in the metaphorical difficulties of a Pactolian spring. which he had rashly turned into the ditch, and obliged him to transfer the onerous duty of writing the editorial on the Big Bluff extension to the hands of the Hon. Abner Dean, assemblyman from Angel's. The loss of the Honorable Mr. Dean's right eye in an early pioneer fracas, did not prevent him from looking into the dim vista of the future and discovering with that single unaided optic enough to fill three columns of the "Star." "It is not too extravagant to say," he remarked with charming deprecation, "that Indian Spring, through its own perfectly organized system of inland transportation, the confluence of its North Fork with the Sacramento river, and their combined effluence into the illimitable Pacific, is thus put not only into direct communication with far Cathay but even remoter antipodean markets. The citizen of Indian Spring taking the 9 A. M. Pioneer Coach and arriving at Big Bluff at 2.40, is enabled to connect with the through express to Sacramento the same evening, reaching San Francisco per the Steam Navigation Company's palatial steamers in time to take the Pacific Mail steamer to Yokohama on the following day at 3:30 P. M." Although no citizen of Indian Spring appeared to avail himself of this admirable opportunity, nor did it appear at all likely that any would. everybody vaguely felt that an inestimable boon lay in the auggestion, and even the master, professionally intrusting the reading aloud of the editorial to Rupert Filgee, with ulterior designs of practice in the pronunciation of five-syllable words, was somewhat affected by it. Johnny Filgee and Jimmy Snyder, accepting it as a mysterious something that made Desert Islands accessible at a moment's notice and a trifling outlay, were round-eyed and attentive. And the culminating information from the master that this event would be commemorated by a half-holiday, combined to make the occasion as exciting to the simple school-house in the clearing as it was to the gilded saloon in

And so the momentous day arrived, with its specially-invited speakers-always specially invited to those occasions, and yet strangely enough never before feeling the extreme "im-portance and privilege" of it as they did then. Then there were the firing of two anvils, the strains of a brass band, the hoisting of a new flag on the liberty-pole, and later the ceremony of ditch-opening, when a distinguished speaker, in a most unworkman-like tall hat, black frock coat and white cravat, which gave him the general air of a festive grave-digger, took a spade from the hands of an apparently-hilarious chief mourner, and threw out the first sods. There were anvils, brass bands, and a "collation" at the hotel. But everywhere-overriding the most extravagant expectation and even the laughter it provoked—the spirit of indomitable youth and resistless enterprise intoxicated the air. It was the spirit that had made California possible; that had sown a thousand such ventures broadcast through its wilderness; that had enabled the sower to stand half-humorously among his scant or ruined harvests without fear and without repining, and turn his undaunted and ever hopeful face to further fields. What mattered it that Indian Spring had always before its eyes the abandoned treaches and ruined outworks of its early pioneers? What mattered that the eloquent eulogist of the Eureka Ditch had but a few years before as prodigally scattered his adjectives and his fortune on the useless tunnel that confronted him on the opposite side of the river? The sublime forgetfulness of youth ignored its warning or recognized it as a joke. The master, fresh from his little flock and prematurely aged by their contact, felt a stirring of something like envy as he wandered

the main street.

Especially memorable was the exciting day to Johnny Filges, not only for the delightfully be-wildering clamor of the brass band, in which, between the trombone and the bass drum he had got mextricably mixed; not only for the half-frightening explosions of the anvils and the maddening smell of the gunpowder which had exaited his infant soul to sudden and irrelevant whoopings, but for a singular occurrence that whetted his always keen percentions. Having been shamelessly abandoned on the veranda of the Eureka Hotel while his brother Rupert paid bashful court to the pretty proprietress by assisting her in her duties, Johnny gave himself up to unlimited observation; the resettes of the six horses, the new harness, the length of the driver's whip-lash, his enormous buckskin gloves and the way he held his reins; the fascinating odor of shining varnish on the coach, the gold-headed came of the Honorable Apper Dean; all these were stored away in the secret recesses of Johnny's memory, even as the unconsidered trifles he had picked up en route were distending his capacious pockets. But when a young man had alighted from the second or "truly" coach among the real passengers, and strolled car dessly and easily in the veranda as | by Chinese, and unworthy the Caucasian ambiif the novelty and the occasion were nothing to | tion. The mining code of honor held that a , Johnny, with a gaip of satisfaction, knew that he had seen a prince! Beautifully dressed in a white duck suit, with a diamond ring on his finger, a gold chain swinging from his fob, and a Panama has with a broad black ribbon jauntily resting on his curled and scented bair. Johnny's eves had never rested on a more resplendent vision. He was more romantic than Yuba Bull, more imposing and less impossible than the Hon. Abner Dean, more eloquent than the master-far more beautiful than any colored print that he had ever seen. Had he brushed him in passing Johnny would have felt a thrill; had he spoken to him he knew he would have been speechless to reply. Judge then of his utter stupefaction when he saw Uncle Benactually Uncle Ben-approach this paragon of perfection, albeit with some embarrassment, and after a word or two of unintelligible conversation walk away with him. Need it be wondered that Johnny, forgetful at once of his brother, the borses, and even the collation with its possible "goodies" instantly followed.

The two men turned into the side street, which after a few hundred yards opened upon the deserted mining flat, crossed and broken by the burrows and mounds made by the forgotten engines of the early gold seekers; Johnny, at times hidden by these irregularities, kept closely in their rear, sanntering whenever be came within the range of their eyes in that sidelong, spasmodic and generally diagonal fashion peculiar to small boys, but ready at any moment to assume utter unconsciousness and the appearance of going somewhere else or of searching for something on the ground. In this way appearing, if noticed at all, each time in some different position to the right or left of them, Johnny followed them to the fringe of woodland, which enabled him to draw closer to their heels.

Utterly oblivious of this artistic "shadowing" in the insignificant person of a small boy, who once or twice even crossed their path with affeeted timidity, they continued an apparently confidential previous interview. The words "stocks" and "shares" were alone intelligible. Johnny bad heard them during the day, but he was struck by the fact that Uncle Ben seemed to be seeking information from the paragon, and was perfectly submissive and humble. But the hor was considerably mystified when, after a tramp of half an hour, they arrived upon the debatable ground of the Harrison-McKinstry boundary. Having been especially warned never to go there, Johnny as a matter of course was perfectly familiar with it. But what was the incomprehensible stranger doing there! Was he brought by Uncle Ben with a view of paralyzing both of the combatants with the speciacie of his perfections! Was he a youthful sheriff, a young judge, or maybe the son of the Governor of Californial Or was it that Uncle Ben was "silty" and didn't know the locality! Here was an opportunity for him. Johnny, to introduce himself and explain and even magnify the danger, with perhaps a slight allusion to his own fearless familiarity with it. Unfortunately, as he was making up his small mind behind a tree, the paragon turned and with the easy disdain that so well became him,

"Well, I wouldn't offer a dollar an acre for the whole ranche. But if you choose to give a fancy price-that's your look out." To Johnny's already prejudiced mind, Uncle Ben received this just contempt submissively. as he ought, but nevertheless he muttered something "silly" in reply, which Johnny was

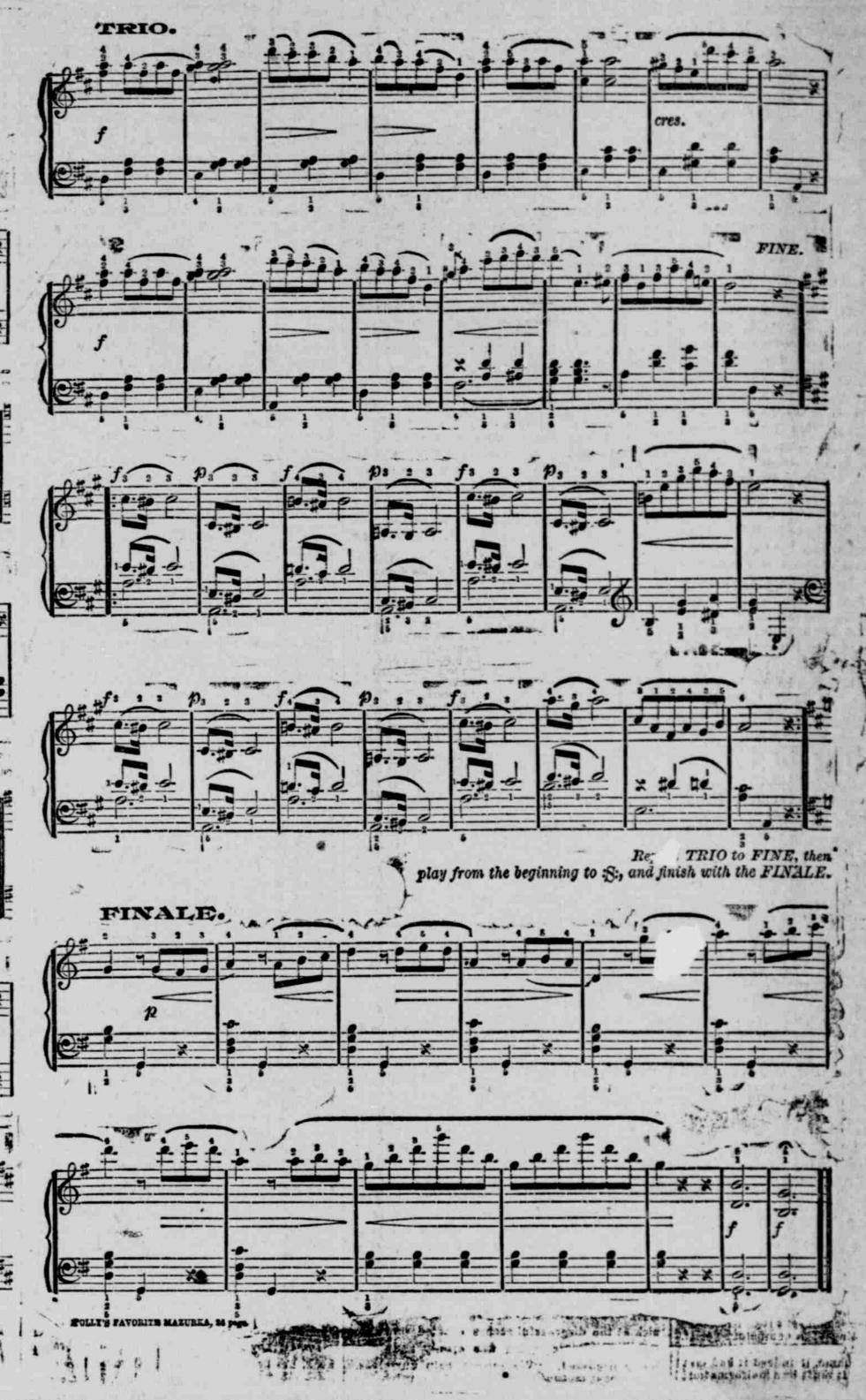
really too disgusted to listen to. Ought he not

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POLLY'S FAVORITE MAZURKA

CARL SIDUS





even spell "ba-ker," and who was taught his letters by his, Johnny's brother? The paragon continued.

"And, of course, you know that merely your buying the title to the land don't give you possession. You'll have to fight these squatters and jumpers just the same. It'll be three instead of two fighting-that's all!" Uncle Ben's imbecile reply did not trouble

Johnny. He had ears now only for the superior intellect before him. It continued coolly.
"Now let's take a look at that yield of yours. I haven't much time to give you, as I expect some men to be looking for me here, and I suppose you want this thing still kept a secret. I don't see how you've managed to do it so far. Is your claim near? You live on it, I think you

But that the little listener was so preoccupied with the stranger this suggestion of Uncle Ben's having a claim worth the attention of that distinguished presence wou'd have set him thinking; the little that he understood he set down to Uncle Ben's "gassin." As the two men moved forward again he followed them until Uncle

Ben's house was reached. It was a rude shanty of boards and rough boulders, half-burrowing in one of the largest mounds of earth and gravel, which had once represented the tailings or refuse of the abandoned Indian Spring Placer. In fact, it was casually alleged by some that Uncle Ben eked out the scanty "grub wages" he made by actual mining, in reworking and sifting the tailings at odd times-a degrading work hitherto practiced only daily labor, as long as he was sustained by the prospect of a larger "strike," but condemned his contentment with a modest certainty. Nevertheless a little of this suspicion encompassed his dwelling and contributed to its lopeliness. even as a long ditch, the former race of the claim, separated him from his neighbors. Prudently halting at the edge of the wood, Johnny saw his resplendent vision cross the strip of barren flat, and enter the cabin with Uncle Ben like any other mortal. He sat down on a stump and awaited its return, which he fondly hoped might be alone. At the end of balf an hour he made a short excursion to examine the condition of a blackberry bramble, and returned to his post of observation. But there was neither sound nor motion in the direction of the cabin. When another ten minutes had elapsed, the door opened and to Johnny's intense discomforture. Uncle Ben appeared alone and walked leisurely toward the woods. Burning with anxiety Johnny threw himself in Uncle Ben's way. But here occurred one of those surprising inconsistencies known only to children. As Uncle Ben turned his small gray eyes upon him in a half astonished, half questioning manner, the potent spirit of childish secretiveness suddenly took possession

of the boy. Wild horses could not now have torn from him that question which only a moment before was on his lips. "Hullo, Johnny! What are ye doin' here!" said Uncle Ben kindly. "Nothin". After a pause, in which he walked all round Uncle Ben's large figure, gazing up at him as if he were a monument, he added:

"Huntin' blackberrieth "Why ain't you over at the collation!" "Ruperth there," be answered promptly. The idea of being thus vicariously present in the person of his brother, seemed a sufficient excuse. He leap-frogged over the stump on which he had been sitting as an easy unembarrassing pause for the next question. But Uncle Ben was apparently perfectly satisfied with Johnny's reply, and nodding to him walked

When his figure had disappeared in the bushes Johnny cautiously approached the cabin. At a certain distance he picked up a stone and threw it against the door, immediately taking to his heels and the friendly copse again. No one appearing, he repeated the experiment twice and even thrice with a larger stone and at a nearer distance. Then he boldly skirted the cabin and dropped into the race way at its side. Following it a few hundred yards, he came upon a long disused shaft opening into it, which had teen covered with a rough trap of old planks, as if to protect incantious wayfarers from failing in. Here a sudden and inexplicable fear overtook Johnny, and he ran away. When he reached the hotel, almost the first sight that met his astounded eyes was the spectacle of the paragon. apparently still in undisturbed possession of all his perfections-driving coolly off in a buggy with a fresh companion.

Meantime Mr. Ford, however, touched by the sentimental eignificance of the celebration, became slightly wearied of its details. As his own room in the Eureka Hotel was actually thrilled by the brass band without, and the eloquence of speakers below, and had become redolent of gunpowder and champagne exploded around it, he determined to return to the school-house and avail himself of its woodland quiet to write a

The change was grateful, the distant murmur of the excited settlement came only as the to step forward and inform the paragon that he soothing sound of wind among the leaves. The "Nothin'." said the boy, was wasting his time on a man who oculdn't pure air of the pines that filled every cranny of eyes still fixed on the pane.

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the quiet school-room, and seemed to disperse all taint of human tenancy, made the far-off celebrations as unreal as a dream. The only reality of his life was here.

He took from his pocket a few letters, one of which was worn and soiled with frequent handling. He re-read it in a half methodical, half patient way, as if he were waiting for some revelation it inspired, which was slow that afternoon in coming. At other times it had called up a youthful enthusiasm which was went to transfigure his grave and prematurely reserved face with a new expression. To day the revelation and expression both were wanting. He put the letter back with a slight sigh that sounded so preposterous in the silent room that he could not forego an embarrassed smile. But the next moment he set himself seriously to work on his correspondence. Presently he stopped; once or twice he had been overtaken by a vague, undefinable sense of pleasure, even to the dreamy halting of his pen. It was a sensation in no way connected with the subject of his correspondence, or even his previous reflections-it was partly physical, and yet it was in some sense suggestive. It must be the intoxicating effect of the woodland air. He same hour when the sun was declining and the fresh odors of the undergrowth were rising. It

certainly was a perfume. He raised his eyes. There lay the cause on the desk before him-a little nosegay of wild Californian myrtle encircling a rosebud which had escaped his notice. There was nothing unusual in the circumstance. The children were in the habit of making their offerings, generally, without particular But he was anxious to know the cause of this reference to time or occasion, and it might have recent attack and its probable relations to the been overlooked by him during school hours. He felt a pity for the forgotten posy, already beginning to grow limp in its neglected solitude. He remembered that in some folk-lore of the children's, perhaps a tradition of the old association of the myrtle with Venus, it was believed to be emblematic of the affections. Ho remembered, also, that he had even told them of this probable origin of their superstition. He was still holding it in his hand, when he was conscious of a silken sensation that sent a magnetic thrill through his fingers. Looking at it more closely he saw that the sprigs were bound together, not by thread or ribbon, but by long filaments of soft brown hair tightly wound around them. He unwound a single hair and held it to the light. Its length, color, texture, and above all a certain inexplicable instinct. told him it was Cressy McKinstry's. He laid it

down quickly, as if he had, in that act, familiarly touched her person. He finished his letter, but presently found himself again looking at the myrtle and thinking about it. From the position in which it had been placed it was evidently intended for him; the fancy of binding it with hair was also intentional and not a necessity, as he knew his feminine scholars were usually well provided with bits of thread, silk or ribbon. If it had been some new absurdity of children fashion introduced in the school, he would have noticed it ere this. For it was this obtrusion of a personality that vaguely troubled him. He remembered Cressy's hair; it was certainly beautiful, in spite of occasional vagaries of coiffure. He recalled how, one afternoon, it had come down when she was romping with Octavia in the playground, and was surprised to find what a vivid picture he retained of her lingering in the porch to put it up; her rounded arms held above her head, her pretty shoulders, full throat, and glow-

ing face thrown back, and a wisp of the very hair between her white teeth! He began another When it was finished the shadow of the pinebranch before the window, thrown by the nearly level sun across his paper, had begun to slowly reach the opposite wall. He put his work away, lingered for a moment in hesitation over the myrtle sprays, and then locked them in his desk with an odd feeling that he had secured in some vague way a hold upon Cressy's future vagaries: then reflecting that Uncle Ben, whom he had seen in town, would probably keep holiday with the others, he resolved to wait no longer, but strolled back to the hotel. The act however had not recalled Uncle Ben to him by any association of ideas, for since his discovery of Johnny Filgee's caricature he had failed to detect anything to corroborate the caricaturist's satire, and had dismissed the subject from his mind.

On entering his room at the hotel he found Report Filgee standing moodily by the window, while his brother Johnny, overcome by a repletion of excitement and collation, was asleep on the single arm chair. Their presence was not unusual, as Mr. Ford, touched by the loneliness of these motherless boys, had often invited them to come to his room to look over his books and illustrated papers. "Well!" he said cheerfully.

Mr. Ford, glancing at him sharply, saw a familiar angry light in the boy's beautiful eyes, slightly dimmed by a tear. Laying his hand gently on Rupert's shoulder, he said: "What's the matter, Rupert?" "Nothin'." said the boy, doggedly, with his

Rupert did not reply or change his position.

"Has-hae-Mrs. Tripp (the fair proprietress) been unkind?" he went on, lightly.

"You know, Rupe," continued Mr. Ford, de murely, "she must show some reserve before company-like to-day. It won't do to make a Rupert maintained an indignant silence. But the dimple (which he usually despised as a feminine blot) on the cheek nearer the master became slightly accented. Only for a moment

"I wish I was dead, Mr. Ford." "Or-doin' suthin'."

fascinating Mrs. Tripp.

-the dark eyes clouded again.

"That's better. What do you want to do?" "To work-make a livin' myself. Quit toten wood and water at home; quit cookin' and makin' beds, like a yaller Chinaman; quit nusin' babies and dressin' 'em and undressin' 'em, like a girl. Look at him now," pointing to the sweetly unconscious Johnny; "look at him there. Do you know what that means? It means I've got to pack him home through the town, jist ez he is thar, and then make a fire and bile his food for him, and wash him, and undress him, and put him to bed, and 'Now I lay me down to sleep' even fancied he had noticed it before, at the | him, and tuck him up; and dad all the while scootin' round town with other idjits, jawin' about 'progress' and the 'future of Injin Spring. Much future we've got over our own house, Mr. Ford. Much future he's got laid up for me!" The master, to whom those occasional out breaks from Rupert were not unfamiliar, smiled albeit with serious eyes that belied his lips, and consoled the boy, as he had often done before.

> "I thought we talked all that over some time ago, Rupe. In a few months you'll be able to leave school, and I'll advise your father about putting you into something to give you a chance for yourself. Patience, old fellow; you're doing very well. Consider-there's your pupil, Uncle

> "Oh, yes! That's another big baby to tote round in school when I ain't niggerin' at home." "And I don't see exactly what else you could do at Indian Spring," continued Mr. Ford. "No," said Rupert gloomily, "but I could get away to Sacramento. Yuba Bill says they take boys no bigger nor me in thar express offices or banks-and in a year or two they're as good ez anybody and get paid as big. Why, there was a fellow here, just now, no older than you, Mr Ford, and not half your learnin', and he dressed to death with jewellers, and everybody bowin' and scrapin' to him, that it was perfectly sickenin'.

Mr. Ford lifted his eyebrows. "Oh, you mean the young man of Benham & Co., who was talking to Mrs. Tripp?" be said. A quick flash of angry consciousness crossed Rupert's face. "Maybe; he has just cheek enough for anythin'.

"And you want to be like him!" said Mr. Ford. "You know what I mean, Mr. Ford. Not like him. Why, you're as good as he is any day," continued Rupert, with relentless naivete: "but if a jay-bird like that can get on, why couldn't 17

There was no doubt that the master here pointed out the defectiveness of Rupert's logic and the beneficence of patience and study, as became their relations of master and pupil, but with the addition of a certain fellow-sympathy and some amusing recital of his own boyish experiences, that had the effect of calling Rupert's dimples into action again. At the end of half an hour the boy had become quite tractable, and, getting ready to depart, approached his sleeping brother with something like resignation. But Johnny's nap seemed to have had the effect of transforming him into an inert jelly-like mass. It required the joint exertions of both the master and Rupert to transfer him bodily into the latter's arms, where, with a single limp elbow encircling his brother's neck, he lay with his unfinished slumber still visibly distending his cheeks, his eyelids, and even lifting his curls from his moist forehead. The master bade Rupert "good-night," and returned to his room as the boy descended the stairs with his burden.

But here Providence, with, I fear, its occasional disregard of mere human morality, rewarded Rupert after his own foolish desires. Mrs. Tripp was at the foot of the stairs as Rupert came slowly down. He saw her, and was covered with shame; she saw him and his burden, and was touched with kindliness. Whether or not she was also mischievously aware of Ropert's admiration, and was not altogether displeased with it; I cannot say. In a voice that thrilled him, she said:

"What! Rupert, are you going so soon?" "Yes, ma'am-on account of Johnny." "But let me take him-I can keep him here to-night." It was a great temptation, but Rupert had

strength to refuse, albeit with his hat pulled

"Poor dear, how tired he looks." She approached her still fresh and pretty far close to Rupert and laid her lips on Johnny cheek. Then she lifted her audacious eyer to

hat from his clustering curls she kissed him squarely on the forehead

"Good night, dear." The boy stumbled and then staggered blindly forward into the outer darkness. But with a gentleman's delicacy he turned almost instantly into a side street, as if to keep this consecration of himself from vulgar eyes. The path he had chosen was rough and weary, the night was dark and Johnny was ridiculously heavy, but he kept steadily on, the woman's kiss in the fancy of the foolish boy shining on his forehead and lighting him onward like a star.

[TO BE CONTINUED.] HUMOR OF THE DAY.

How She Acquired the Manner. "What an imperious, dictatorial person Mrs Sporter is!" "Yes, she went out to service in her youth."

A Philadelphia Idea of It. New Yorker-Are there any Aparchists in Philadelphian-Many, very many, sir. Why the other day when the street-cars got stuck for

three hours some of the Anarchists actually got out and stood in the middle of the street and said bad words. A Celebrated Traveler.

New York Sun Passenger (to Chicago drummer) - Do you recognize that centleman seated further up the car? He is one of the greatest travelers in the country. I don't know how many times he crosses

Chicago Drummer-You don't say so? I never saw him before in my life. What's his name? Passenger-James Russell Lowell. Chicago Drummer-James Russell Lowell, eh. What line of goods does he sell?

The Browning Decline.

the ocean every year.

"Are you going into the Browning Club business as steep this winter as you did last, Katel" asked Miss Chicago, of her friend Miss St.

"Not by a long shot," replied Miss Kate emphatically. "A reaction has struck our Browning Club, as I knew it would. We've voted to cheese Browning and have some of our good oldfashioned taffey-pullings, and cotillion and euchre parties this winter. How we ever got drawn into that Browning snap is a mystery to

me, anyhow." The Public School Question. "The examination you undergo for the posi-

tion of teacher is very severe, is it not?"

"I should say so!" "What are the branches?" "Well, to-day we were examined in psychology, integral calculus, mathematical astronomy polemic divinity, metaphysical analysis and Greek classification."

"Indeed! What position are you competing "Instructor of the A B C class." A Rar ity. Pittsburg Bulletin. Mrs. Duquesne-I sur pose you sing or play?

musical. Mrs. Duquesne-You recite, probably? Miss Newcomer-Oh, no, indeed! Mrs. Duquesne-Well, then, I suppose you paint plaques? Miss Newcomer -- Me paint? I couldn't paint a

Miss Newcomer-Ol , no! I'm not at al

one of my receptions. You'll be such a sensa-At a Whist-Table.

Mrs. Duquesne (eagerly)-Oh, you dear girl;

how lovely. You must promise to come to every

"Whose deal is it?" "Who de alt last!" "You; di do't you!" "I don't know." "Oh, it's Mr. B.'s deal." "Why, so it is."

"Who took that trick?"

"What /s trumps?

"Diar sonds. "Dis monds! Well, if I ain't got the awfullest "Well, I just haven't got a thing." "I never did have quite such awful luck." Whose play is it!" " Let me see, what's trumps!" ' 'Diamonds."

"Oh, so it is; how stupid of me to forget" "It's your play." "Oh, is it! What led?" "Spades." "Let me see, now-um-um-spades led an diamonds are trumpel" "Hurry and play "Oh! if you didn't have ten trumpe."

"You mean thing." "O-o-oh! if you didn's make four! You're horrid Whose deal is it!" his brother and pushing back his well-worn chip ! Then they say it all over again.

SCIENCE FOR THE PEOPLE.

Coal dust or culm accomulates in large quantities in the anthracite coal region and various plans have been suggested for its utilization. A Scranton man claims that if properly mixed with light-colored soil, the dust will enrich it with the essentials of plant life and greatly enhance the earth's productiveness. The Progressive Age favors another method, which is, to convert it into fuel gas. It says: "Coal, whether anthracite or bituminous, can, of course, be utilized for fuel gas; but anthracite contains the largest percentage of carbon. It is almost impossible to calculate the immense amount of fuel gas stored up in the anthracite coal dust when we consider that one ton of it will yield about 100,000 cubic feet of gas. There is no doubt that the time is coming when both bituminous and anthracite coal will be converted into fuel gas, and this gas, instead of the raw coal, will be the fuel of the future."

The Universal Thinker gives the following table showing the capacity in gallons for each foot in depth of cylindrical cisterns of any diame-

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imeter.	Gallons Diameter.	Gallor 2:
ft	1,958 619 ft	20
ft	1,101 6 ft	17
ft	959 5 ft	1
ft	827 43 ft 705 4 ft	
ft	592 3 ft	4
ft	489 24 ft	
ft		

To make French cold solder: Precipitate copper in a state of fine division from a solution of sulphate of copper by the aid of metaliic zinc. Twenty or thirty parts of the copper are mixed in a mortar with concentrated sulphuric acid, to which is afterward added seventy parts of mercury, and the whole is triturated with the pestle. The amaigam produced is copiously washed with water to remove the sulphuric acid and is then left for tweve hours. When it is required for soldering it is warmed until it is about the consistency of wax, and in this state it is applied to the joint, to which it adheres on

The new Argentine Pacific railroad from Buenos Ayres to the foot of the Andes has on it what is probably the longest tangent in the world. This is 345 kilometers (211 miles) without a curve. In this distance there is not a single bridge, and no opening larger than an ordinary culvert, no cut greater than one metre in depth, and no fill of a beight exceeding one metre. There is almost an entire absence of wood on the plain across which the western end of the road is located. This has led to the extensive use of metallic ties, which will be em-

ployed on nearly the entire road. Experiments in submarine telephony have been made by the French government at Brest, The instrument is called a hydrophone, but is practically a microphone, and was invented by M. Barrare. The sound of a bell weighing 300 pounds, which was struck under water, was heard at the greatest distance permitted by the configuration of the bay-namely, 5,200 metres (3) miles). Excellent results were obtained on board a boat in motion, the bell being distinctly heard 1,400 metres off, as well as the noise of the screw of the tug, on board which the surrounding instruments were placed.

According to Professor Sargent, the strongest wood in the United States is that of the nutmeg hickory of the Arkansas region, and the weakest is West India birch. The most elastic is the tamarack, the white or shellbark hickory standing far below it. The least elastic and the lowest in specific gravity is the wood of the Figus aures. The highest specific gravity, upon which in general depends value as fuel, is attained by the bluewood of Texas.

Lead in the form of filings, under a pressure of 2,000 atmospheres, or 13 tons to the square inch, becomes compressed into a solid block, in which it is impossible to detect the slightest vestice of the original grains. Under a pressure of 5,000 atmospheres it liquifies. Tin, when compressed in powder, becomes solid under a pressure of 10 tons on the square inch; zinc at 38 tons, antimony at 38 tons, aluminum at 38 tons, bismuth at 38 tons and copper at 33 tons. A Pittsburg man has invented a glass conduit which, be thinks, solves the problem of underground electric wires. Plates of glass are grooved on the upper surface, and the wires are laid in the groves and cemented with pitch. Then other plates of glass are laid over the first. and wires put upon them in the same way. When all the wires are laid the whole is inclosed in a

wooden box and imbedded in cement. Acids in lubricating oils may be detected by analysis in a laboratory or by putting the sample to be tested in a clear glass bottle with a copper wire running down through the cork, air tight; stand the whole in a sunny place for two or three weeks and then, on removal, if verdigris or green rust appear on the copper an sold

An application of electricity to iron mining is now proposed. It consists in the crushing of speech," replied the printer. "There are many magnetia iron ore by crusher and rolls, and ef- | sizes of type

feeting a separation of the ore from the gangue by means of dynamos. An experimental plant is to be erected at one of the Marquetta france. and the machinery best adapted for work on a large scale tested. With the large waste rock piles of magnetite on that range, a due regard to economies and fair prices for ore, it is thought that there should be developed a paying buid-ness of handsome proportions.

According to the Naturforscher, Professor Pfluger and Dr. Tilanus have succeeded in crd-tivating. by Dr. Koch's method, the bacteria which produces the luminosity of sea fish. They have also been able to place them on a glass slide, which, in the dark, appeared thickly strewn with luminous points. Professor Van Haren Noman has succeeded in photographing

A new recipe for stopping rat-holes is to moisten old newspapers and knead them inte-papier mache. Dip the pulp thus formed into a strong solution of oxalic acid, then press the mass while wet into the holes. The rodents. will be kept away by the soid, which will make

their feet sore and prevent their gnawing. The paper will dry and can be papered or painted. Sunflower is coming to the fore as an article of commercial value. As an admixture to

chicken-feed its merits are indisputable; veteriparians use it in a medicinal way in the treatment of horses; its growth is considered of use in the prevention of malaria, and the ex-traction of a valuable oil from it is a looked-for result.

Had Been Through a Jollification Racket.

He limped slightly, and there were several sections of court plaster in conspicuous places upon his weather-beaten face. His nose had evidently suffered from a contact with someear was partly chewed off. His clothes were tofn and bloody, and there was a sort of beenthrough the mill appearance about him that awakened toe sympathy of the railroad boys as he walked about the car-shed yesterday morn-

"Been in a wreck, stranger?" asked one of the passenger agents who has a sympathetic turn of

"Who, me?" said the battered specimen of humanity, as he rubbed a bruise under his left eye. "I guese not. Don't you know what's the matter with me! Well, I'll tell you. I just got in from Indianapolis, I guess. Don't knew how I came here, but I was in Indianapolis last Wednesday, and went down town to collect a few bets on Harrison, and joined a procession that was parading the streets and celebrating the election. That's the last thing I remember until I was about the miles from Atlanta. I haven't got a cent, but I guess I'll go back home somehow. Say, stranger, you couldn't loan me

a d ollar, could you!" A Duke as a Greengrocer.

London Truth. The Duke of Norfolk appears to have become a greengrocer, for I hear that he is not above selling his fruit, vegetables and flowers at current market rates, either wholesale or retail. Visitors to Arundel Castle gardens may purchase anything they fancy, and large hampers of prodnce and buge baskets of cut flowers are dis-Portsmouth. Under the circumstances it seems decidedly unfair, while the Duke is driving a roaring trade, that his glass houses should be rated merely as pleasure-grounds, whereas professed nurserymen have to pay a very much higher rate. The Duke has quite enough advantage over the ordinary tradesman withon?

being favored in the matter of rates. The Sound Disc for Desfuess.

N. E. Medical Journal. An inventor in Bridgeport, Conn., named R. A. Wales, has given the world an invisible device for deafness, which by practical demonstration outranks all discoveries of the kind, as it relieves a larger variety of cases than all other artificial means combined, and its possibilities are indeed very great. He wrongly calls it an "Artificial Ear Drum." as it is simply a sound disc, concentrating the sound waves on drum head, and its advent can but be bailed

with joy by both physician and patient.

In Bad Repair. Railroad Superintendent-Any of the pas-Head Examiner-Yes sir; No. 306 is in a very bad shape; ought to go to the shop at once. Railroad Superintendent-What's the matter Head Examiner-Two of the windows are so

loose that any ordinary man can raise them, sit. A Printer's Joke.

"Yes, sir," said a Pittsburger to a printen "he's a man of the highest type. He's a para-"You contradict yourself in your figures of